In the

United States Court of Appeals

For the Ninth Circuit

Appeal No. 22,142

NTERMOUNTAIN RESEARCH AND ENGINEERING COMPANY, INC., IRECO CHEMICALS, and IRON ORE COMPANY OF CANADA,
Plaintiffs-Appellants,

v.

HERCULES INCORPORATED and KAISER STEEL CORPORATION,
Defendants-Appellees.

BRIEF OF DEFENDANTS-APPELLEES

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BRIEF OF DEFENDANTS-APPELLEES

JURISDICTION

This being an action for infringement of a United States Letters Patent, it arises under the patent laws of the United States, 35 U. S. C. §§ 271 and 281. [R 2, 14]* The jurisdiction of the District Court was properly invoked under 28 U. S. C. § 1338(a), and venue is based on 28 U. S. C. § 1400(b). [R 2, 14] U. S. Patent No. 3,113,059 was declared invalid under 35 U. S. C. §§ 102(b) and 103 in a judgment rendered in accordance with Rule 56, F. R. C. P. on June 6, 1967. [R 145-6]**

On July 5, 1967, the District Court entered an Order pursuant to Rule 54(b), F. R. C. P., certifying that the

*"R" followed by a number designates pages of the record on appeal.

**35 U. S. C. §§ 102 and 103, and Rules 56(b) and (c) are reproduced in The Appendix hereof.

aforesaid judgment be considered a Final Judgment. [R 161] Jurisdiction of the Court of Appeals arises under 28 U. S. C. § 1291. The Notice of Appeal was filed in accordance with Rule 73, F. R. C. P. on July 5, 1967. [R 162-3]

STATEMENT OF THE CASE

Appellants' statement is controverted to the extent that certain portions thereof are considered to be inaccurate. Also, it is considered that some amplification is needed in order that the factual setting of this case be fully set forth.

THE PATENT IN SUIT

U. S. Patent No. 3,113,059 (hereinafter referred to as the '059 patent) issued to W. O. Ursenbach and L. L. Udy, and has been assigned to Intermountain Research and Engineering Company, Inc., one of the plaintiffs herein. It relates to a method of chemically treating or stabilizing a slurry containing water, particulate aluminum and an oxidizing agent to prevent or inhibit the reaction of aluminum and water. The reaction of the aluminum and water forms hydrogen, and is stated to be "exothermic" —that is to say, heat is generated by the reaction. ['059 patent, R 83-4, Col. 1, lines 22-26] In addition to the generation of heat and production of hydrogen caused by the aluminum-water reaction in unstabilized slurry mixtures, the '059 patent states that considerable ammonia is evolved if the slurry mixture contains ammonium nitrate (as the oxidizing agent). ['059 patent, Col. 2, lines 3-5]

The specification of the '059 patent discloses that similar problems arise in connection with reclaiming dry, solid explosives which contain particulate aluminum together with oxidizing agents. ['059 patent, Col. 1, lines 31-41]

According to the '059 patent, the addition of a small amount of a phosphate selected from the group consisting

of ammonium and alkali metal phosphates is effective to inhibit the aluminum-water reaction. Such inhibition is described as stabilization. ['059 patent, Col. 1, lines 50-56]

No theory is advanced in the '059 patent as to how the phosphate addition functions to inhibit the aluminum-water reaction, nor is any criticality or uniqueness there attributed to the narrow class of phosphates disclosed to be suitable for use.

As evidence of the efficacy of phosphate addition, two specific examples are included in the '059 specification. ['059 patent, Examples I and II, Col. 2] In each example, the criterion of success was the amount of gas evolved from an aqueous slurry containing a nitrate oxidizing agent, water and particulate aluminum. In Example I, the oxidizing agent was ammonium nitrate, whereas in Example II a mixture of ammonium and sodium nitrates was used.

Example I involved a comparison of stabilized and unstabilized slurries based on the amount of gas evolved during a period of six hours. According to the data set forth in Example I, the unstabilized slurry mixture produced almost three times the amount of gas produced by the slurry mixtures which had phosphate addition. Further, Example I indicates that there was a 15°C. temperature rise in the slurry which did not contain phosphate, i.e. the reaction was exothermic.

Example II involved the testing of slurries of different compositions to show the effects of addition of phosphates. The slurries which did not contain phosphates evolved excessive gas after storage for two weeks, whereas the slurries which were formulated with phosphates were stated to have exhibited no evolution of gas.

The '059 patent suggests that from 0.1% to 2% by weight of phosphate, is effective. However, the patent goes on to state that amounts larger than 2% may be used "*but*

no apparent added benefit appears to result". ['059 patent, Col. 1, lines 61-66]

The patent teaches that the preferred phosphate is diammonium hydrogen phosphate, but indicates that other phosphates such as the tribasic, dibasic, or monobasic phosphates of ammonium or alkali metals such as sodium or potassium may be utilized. ['059 patent, Col. 2, lines 5-60]

No data are provided to justify the allegedly preferred status of diammonium hydrogen phosphate.

No data are provided to show that other phosphates are unsuitable for use in inhibiting the aluminum-water reaction, nor is there even a suggestion that other phosphates are unsuitable.

U. S. Patent No. 3,113,059 *does not* involve aqueous slurry blasting compositions *per se*. The alleged invention of the '059 patent is a method of inhibiting the aluminum-water reaction in an aqueous slurry which contains particulate aluminum, water, and an inorganic nitrate. This is clearly set forth in the '059 patent in column 1, lines 42-45 and 50-56, and was also admitted by counsel for plaintiffs-appellants during the oral hearing. [Tr 50-1-2]*

THE PRIOR ART

Faber, U. S. 1,529,778

Faber U. S. Patent No. 1,529,778 [R 74-5] issued March 17, 1925. This reference, hereinafter referred to as Faber, is concerned with the inhibition of the aluminum-water reaction in a slurry mixture containing aluminum, water, and an inorganic nitrate. The end use of the slurry mixture of Faber is a pyrotechnic article, i.e., a "sparkler"

*"Tr" followed by a number refers to a page of the transcript of the proceedings in the District Court on May 15-16, 1967.

of the type used by children to celebrate the Fourth of July. The sparkler composition is prepared as an aqueous slurry which is subsequently applied to wires, sticks or the like and dried.

As will be explained in detail below, Faber found that a buffer*, and in particular a phosphate, would inhibit the aluminum-water reaction in his slurry mixture.

In the production of sparklers, according to Faber, there is first formed an aqueous slurry** containing water, particulate aluminum in the form of aluminum powder, and a nitrate oxidizing agent. [Faber, Col. 1, lines 9-21]

Faber states that a recurring problem in the manufacture of sparklers had been the "fermenting" of the aqueous slurry. When such condition occurred, the aqueous slurry began to "bubble and boil, foaming up over the top of the tub and generating a great deal of heat."*** [Faber, Col. 1, lines 24-30]. Faber believed that the "fermenting" was attributable to the reaction of aluminum and water with its accompanying evolution of hydrogen. [Faber, Col. 1, lines 43-54]

In addition, Faber states that the hydrogen so formed reacts with the nitrate to produce ammonia. The ammonia so produced and other by-products of the reaction create an alkaline condition in the slurry. [Faber, Col. 1, line 54 to Col. 2, line 59]

Faber teaches that the addition of a "buffer" would prevent the aluminum-water reaction, and expresses a pre-

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*Buffer—". . . As the term is most commonly used in chemistry, a buffer is a substance which, upon addition to a system, renders the hydrogen ion concentration resistant to, or less sensitive to, additions of acidic or alkaline substances . . ." *The Van Nostrand Chemist's Dictionary* 105 (1953) [R 61]

**The term "slurry" is used by Faber in Col. 2, at lines 81, 89 and 98, for example. The court below fully appreciated that Faber was concerned with a slurry. [Tr 53-4]

***i.e., "exothermic". See pp. 2 and 3 hereof.

ference for calcium monoacid phosphate. [Faber, Col. 1, lines 85-87; Col. 2, lines 90-97]

Taylor, et al. U. S. 2,481,795

Taylor, et al. U. S. Patent No. 2,481,795 [R 76-9] issued September 13, 1949. This reference, hereinafter referred to as Taylor, relates in general to ammonium nitrate explosives. The relevance of Taylor to the issues before this Court resides in the disclosure that the explosive art recognized that a variety of phosphates could be used as buffers in ammonium nitrate mixtures.

Judge Real was fully cognizant of the limited purpose for which Taylor was offered by defendants-appellees. Thus, at Tr 44:

> "[Mr. Churchill] Their second patent [Taylor] has absolutely nothing to do with it. I think Mr. Carr in his statement virtually admitted that today. That patent doesn't even show a composition containing aluminum particles.
>
> The Court: No, he said it was only produced for the purpose of showing there were other buffering agents and those were phosphates."

Taylor shows that sodium dihydrogen phosphate and ammonium dihydrogen phosphate, and alkali metal* phosphates were known buffers which could be incorporated in explosive mixtures containing ammonium nitrate. [Taylor, Col. 3, lines 60-69] It is noted that the term "buffer salt" is used by Taylor. [Taylor, Col. 3, line 62] The calcium phosphate disclosed by Faber is a buffer salt, as are the various designated phosphates disclosed in the '059 patent.

*Sodium and potassium are alkali metals. See '059 patent, Col. 1, line 60.

COMMENTS ON APPELLANTS' STATEMENT OF THE CASE

It is not correct that the Findings and Conclusions adopted by the District Court are "founded *entirely* on the Court's own interpretation of the patent in suit (R 83-4) and of printed copies of two prior patents, Faber, 1,529,778 (R 74-5) and Taylor, et al., 2,481,795 (R 76-9)" as contended by appellants at page 3 of their brief.*

As evidenced by the transcript of the proceedings before Judge Real in connection with Defendants' Motion for Summary Judgment on the '059 patent, there was considerable colloquy between the Court and counsel for plaintiffs-appellants at the oral hearing on the motion. Several of these exchanges shed considerable light on the factual background of this case. Specific references to the transcript of the proceedings in the District Court are made in various sections of this brief to show that the District Court's decision was *not* founded *entirely* upon its own interpretation of the patent in suit and of the two prior art patents upon which the judgment of invalidity was founded.**

The statement at page 3 of appellants' brief that Ursenbach is "a qualified expert in aqueous slurry explosives" has no foundation other than in paragraph 2 of Ursenbach's own affidavit,*** a careful study of which fails to reveal any basis for such a contention. The only portion of paragraph 2 relating to Ursenbach's work with slurry explosives is the last sentence, which merely sets forth that he

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*Emphasis added unless otherwise indicated.

**However, in a simple case such as this, the Court could properly have read the '059 patent and the references, and concluded that the patent was invalid in view thereof.

***Plaintiffs filed an affidavit of W. O. Ursenbach in opposition to Defendants' Motion for Summary Judgment. [R 120-3]

has worked for one of the plaintiffs since 1961 on research and development "in connection with" slurry explosives.

Appellants further assert that the Findings of Fact of the District Court "ignore" the statements in the Ursenbach affidavit.* [P. Br. 3]** Appellants' choice of language in this connection is inapt, if not misleading. The lack of reference to the Ursenbach affidavit in the Findings of Fact adopted by the District Court does not justify a conclusion that the Ursenbach affidavit was "ignored" in the adoption by the District Court of such Findings.

On the other hand, and as will be shown hereinafter, the Ursenbach affidavit suffers from a lack of evidentiary facts from which the District Court could reach its own conclusions based thereon. This shortcoming of the Ursenbach affidavit was brought to the Court's attention by counsel for defendants-appellees during oral argument on the Motion for Summary Judgment. [Tr 24-6, 53]

SUMMARY OF ARGUMENT

Identity Of Inventive Concept Negates Validity

The scope of a patent grant should be commensurate with the inventor's contribution to the art. A fundamental factor which must be considered in determining the extent of the contribution is the inventive concept. If the inventive concept of a later invention is found to be identical or very closely related to the inventive concept of an earlier invention, it is said that the earlier invention "anticipates"

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*Plaintiffs-appellants did not submit a counter-order, nor did plaintiffs-appellants submit any proposed additional Findings of Fact for the Court's consideration.

**"P. Br." followed by a number refers to a page of plaintiffs-appellants' brief on appeal.

he later invention. Alternatively, the inventive concept of he later invention may be "obvious" in view of the earlier isclosure. Thus, a primary question which must be nswered in determining the validity of a patent is: What s the *inventive concept* underlying the invention?

Here the "inventive concept" of the '059 patent is imple. It is a method of inhibiting the aluminum-water eaction in an aqueous slurry containing a nitrate. The nethod involves the addition of a small amount of phos- hate. In '059, the end use of the slurry was a blasting xplosive.

The earlier patent of Faber disclosed a virtually iden- ical inventive concept in that he sought to inhibit the luminum-water reaction in an aqueous slurry containing a itrate. The means he employed was the addition of a mall amount of a phosphate. His slurry was used for naking sparklers.

Thus, the "inventive concept" of '059 and Faber were he same. The patentees of '059 contributed *nothing* new o the art. To permit appellants to remove from the public omain that which Faber dedicated in exchange for his atent monopoly is contrary to the basic purpose and tenets f the patent law.

Summary Judgment Was A Proper Remedy

The summary judgment procedure has been developed s the result of a recognition that there are matters unde- erving of a full trial. If, on the face of the pleadings and he papers presented to the court, there is no genuine issue f material fact, the court may readily dispose of the matter n a summary fashion without burdening itself and the arties with the time and expense of a trial, the disposition f which would be foreordained. Summary judgment has een recognized as a proper procedure in an appropriate

patent case in which, as in any other case, there appears to be no genuine issue of material fact.

Summary judgment has been found to be an appropriate procedure in many patent cases decided in this circuit, a most recent example of which was *Walker* v. *General Motors Corp.,* 362 F. 2d 56 (9th Cir. 1966), wherein the Court held the patent in suit to be invalid under 35 U. S. C. § 103. Normally, summary judgment procedures in such cases are confined to those in which both the patent in suit and the prior art, representing earlier inventions, may be easily read and understood by the court.

Thus, if upon reading and understanding the patent in suit and the prior art, the court concludes that the invention of the patent either had been made by another at an earlier date or would have been obvious to anyone ordinarily skilled in the art in the light of what had gone before, the court should summarily invalidate the patent and dismiss the complaint.

This is just such a case. The '059 patent in suit is simple and easily understood. It relates to a method for inhibiting the aluminum-water reaction in an aqueous slurry which also contains an inorganic nitrate. The reaction is inhibited by the addition of a small amount of a phosphate.

The Faber patent at a much earlier date disclosed that the way to inhibit the aluminum-water reaction in an aqueous slurry which also contained a nitrate, was to add thereto a small amount of a phosphate.

A mere reading of the '059 patent and the Faber reference will disclose the above to be the facts. No expert assistance or guidance, nor a full trial is required in their understanding. On the basis thereof, the lower court properly found the '059 patent to be invalid.

As stated in a leading case on summary judgment procedure in this Circuit:

"Judicature is a practical business and the summary judgment procedure has been introduced into our practice as a practical device for the expeditious disposition of litigation where there appears to be no need for the usual type of trial . . .

There are cases in which factual presentation is necessary to make clear the significance of the patent either because of conflicting interpretations of its claims or because the patent, in its nature, is difficult to understand. But there are other cases where there can be little doubt what the patent claims and factual presentation is not necessary to illuminate the alleged invention . . . This appears on its face to be such a case." *Park-In Theatres* v. *Perkins* 190 F. 2d 137, 142 (9th Cir. 1951).

There Is No Presumption of Validity of '059

An issued patent is presumed to be valid. However, this resumption only applies with respect to the prior art atents and publications which were considered by the Examiner in connection with the prosecution of the application or patent. The presumption does not apply with respect to ertinent prior art which was never considered in the Patent ffice. The principal references herein were never considered by the Patent Office.

he Patentees of the '059 Patent Are Charged with Knowledge of The Prior Art

It is well recognized that regardless of whether a patntee has actual knowledge of prior patents, such prior atents are nonetheless properly considered as prior art.

The '059 Patent Is Invalid Under 35 U. S. C. § 102(b)

The '059 patent is directed to an aqueous slurry containing aluminum, water and an inorganic nitrate to which

was added a small amount of a phosphate for the purpose of inhibiting the reaction between aluminum and water. It was recognized that such reaction gave off heat and generated hydrogen and ammonia. These effects were found to be deleterious in the slurry which was to be stored for later use as a blasting explosive.

Faber is prior art as to the '059 patent. The inventive concept of Faber, which was earlier in time, was the addition of a small amount of a buffer, such as calcium phosphate, to inhibit the aluminum-water reaction in an aqueous slurry containing aluminum, water and an inorganic nitrate.

Faber recognized that the aluminum-water reaction generated heat in the slurry and gave off hydrogen and ammonia, which adversely affected his slurry.

Thus, the problem confronting the patentees of '059 and Faber was the same and their solution to the problem was the same. In short, the inventive concept of the '059 patent was fully disclosed by Faber 37 years before the application for '059 was filed.

The fact that '059 claims only ammonium and alkali metal phosphates, and particularly diammonium hydrogen phosphate, which is stated to be preferred, does not serve to patentably distinguish it from Faber. There is nothing in the '059 patent to indicate that the claimed phosphates are in any way critical or that other phosphates are unsuitable for the same purpose. Further, there is no denial that the calcium phosphate of Faber would also serve to inhibit the aluminum-water reaction of the '059 patent.

Nor is the limitation as to particular amounts of phosphate in certain of the claims sufficient to patentably distinguish over Faber. Claims 2 and 4 call for 0.1% to 2% of the phosphate, but the patent clearly teaches that more than 2% phosphate can be used, with no apparent added benefit. Faber discloses the use of 3-5% phosphate as an inhibitor.

Clearly, the inventive concept of the '059 patent was disclosed by Faber and as a consequence, the '059 patent is invalid under 35 U. S. C. § 102(b).

The '059 Patent Is Invalid Under 35 U. S. C. § 103

As previously noted Faber disclosed that a buffer, such as calcium phosphate, could be used to inhibit the aluminum-water reaction in an aqueous slurry containing, in addition, an inorganic nitrate

Taylor, admittedly a prior art reference, disclosed that alkali metal phosphates and specifically ammonium dihydrogen phosphate and sodium dihydrogen phosphate were useful as buffers in explosive compositions containing nitrates. The latter two phosphates are the very phosphates disclosed for use in the '059 patent.

It would be obvious to anyone with minimum skill in the art that the aluminum-water reaction in an aqueous slurry containing an inorganic nitrate could be inhibited by employing the Faber method, using the Taylor buffers—ammonium dihydrogen phosphate, sodium dihydrogen phosphate or any alkali metal phosphate. In view thereof, the '059 patent is invalid under 35 U. S. C. § 103.

There Are No Genuine Issues Of Material Fact

In the lower Court, appellants urged upon Judge Real that there were many genuine issues of material fact which precluded the grant of summary judgment herein. These issues were urged in appellants' brief and at oral argument. In view of the utter simplicity of the patent in suit and the two prior art patents presented, the lower Court appreciated that the issues were neither genuine nor material, but were raised merely in an attempt to avoid summary judgment.

For example, appellants urged that Faber inhibited the aluminum-water reaction by a buffering action, whereas no buffering was involved in '059. Appellants overlooked, although the Court did not, the fact that it is totally irrelevant whether or not Faber was correct in his theorization. It is enough that Faber taught the use of a buffer in the form of calcium phosphate to inhibit the reaction, and that the '059 patent merely used other phosphates, which were known buffers, to inhibit the same reaction in the same environment.

Findings Of Fact 2, 3, 4, 6, 8 and 10 Are Supported In The Record

Findings 1, 5, 7 & 9 are not challenged by appellants.

With respect to challenged findings 2, 4 & 6, appellants do not assert that these findings lack support in the record, but generally that they are inaccurate, misleading, or incomplete. Finding 3 is challenged as having no basis in the record.*

Findings 8 and 10, although generally challenged [P. Br. 10], are not otherwise referred to by appellants.

The challenged findings are dealt with in detail hereinafter. The findings are accurate, they are by no means misleading, and they are as complete as is necessary for a disposition of the matter at hand.

Briefly, appellants complain that the lower Court did not, in its Findings, take proper cognizance of the end use of the slurry of the '059 patent, of the particular phosphates employed and the amounts suggested for use, and of the manner in which the phosphates of '059 and the prior art function to inhibit the aluminum-water reaction.

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*Whereas the Finding speaks of "criticality or uniqueness", appellants characterize the choice of phosphate and amount thereof merely as being "of importance", without arguing criticality. [See P. Br. 20, 24]

These are immaterial matters which have no bearing on the ultimate issue of validity of the '059 patent. Findings 2, 3, 4 & 6 are confined to material matters on the basis of which the Court concluded, and properly so, that the invention of the '059 patent was described and taught in Faber (Finding 8), and obvious in view of Faber and Taylor (Finding 10), and that hence '059 was invalid.

Having discussed each of the points of the Argument in summary fashion, we will hereinafter discuss each of the same points in more detail.

ARGUMENT

I.

IDENTITY OF INVENTIVE CONCEPT NEGATES VALIDITY

The touchstone of the *quid pro quo* theory of the granting of patents in this country is the correspondence between the patent monopoly and the contribution of the inventor. That is to say, the inventor is entitled to a monopoly which is no more extensive than the metes and bounds of the technological advance which he discloses to the public.

It follows, therefore, that in evaluating a patent to determine whether an inventor is entitled to a limited monopoly, embodied in the patent grant, it is essential that the inventor's contribution to the art be specifically defined and understood. A fundamental factor which must be considered in determining the extent of the contribution made by the inventor is the *inventive concept*. In the event that examination and comparison of an earlier invention with a later invention show that the inventive concepts are identical or very closely related, then there is identity of invention and, in legal parlance, it is said that the earlier invention "anticipates" the later invention. Alternatively, the inventive concept of the later invention may be "obvious" in

view of the earlier disclosure. Thus, a primary question which must be answered in determining the validity of a patent is: What is the *inventive concept* underlying the invention?

In determining the inventive concept, the substance of the invention must be distinguished from its mere form by ascertaining the function of the invention and how it is performed. This Court in *Pierce* v. *Ben-Ko-Matic, Inc.,* 310 F. 2d 475 (9th Cir. 1962) succinctly enunciated this principle at 477:

> "' . . . the ingenious application of known principles to a known problem by the use of devices already known and understood to produce a predictable result does not amount to invention. * * * ' "

A. The Inventive Concept of '059 is a Simple One

The inventive concept of the '059 patent was the addition of a phosphate to inhibit the undesirable reaction of water and aluminum, in a known aqueous slurry composition which also contained nitrates.

The inventive concept, if any, resides solely in an improvement in an aqueous slurry, which slurry was already known in the prior art to be useful as a blasting explosive. The '059 patent *does not* purport to involve a new blasting slurry *per se.*

That the alleged invention of the '059 patent is narrowly limited to an improvement involving inhibition can be seen by reference to the title thereof, "Inhibited Aluminum-Water Composition and Method". Further, the very first sentence of this patent confirms that the explosive nature of the slurries in question is irrelevant to the issues presented by this appeal:

> "This invention relates to the stabilization of aqueous systems containing particulate aluminum."

This is clearly demonstrated by a colloquy between counsel for plaintiffs-appellants and Judge Real during the oral hearing:

> "THE COURT: This is not a basic patent on an explosive, is it?
>
> "MR. CHURCHILL: No, it is on inhibiting an aqueous slurry so that it may be stored and after mixing it is now a blasting agent. Once it is mixed it is a blasting agent. This is something added to that so it may be stored for periods of time such as several days, weeks. It is only after several days or weeks of storage that any problems ever occurred with these things." [Tr 50-1]

The problem of the reaction of aluminum and water in the slurry mixture is in no way involved with the end use of the mixture. In addition, the expedient by which the patentees of the '059 patent allegedly overcome this problem of the aluminum-water reaction in no way affects the end use of the slurry mixture. This was conceded during oral argument by counsel for plaintiffs-appellants:

> "THE COURT: Let me ask you, what does this phosphate do in connection with the actual blasting effect of the aqueous slurry that is created by your client?
>
> "MR. CHURCHILL: I do not think that affects the blasting portions of the product, your Honor, as far as I know, I do not think it makes a better or poorer blasting agent. It simply makes it safer.
>
> "THE COURT: So we come to it, around the circle that it has only to do with the inhibition of aluminum and water deterioration to make a hydrogen gas.
>
> "MR. CHURCHILL: Making it safe to store; that is right, your Honor." [Tr 52]

B. The Inventive Concept of Faber is Equally Simple

The inventive concept of Faber involved the addition of a buffer, specifically calcium phosphate, to inhibit the undesirable reaction of water and aluminum in an aqueous slurry composition containing a nitrate which produced heat and hydrogen gas. It is clear from Faber that the problem he faced, and his solution thereto, were in no way related to the end use of his slurry which was a pyrotechnic article, a "sparkler".

C. The Issue Presented To This Court Is Simple

It can be seen that the correctness of Judge Real's decision of invalidity may be reviewed without reference to the ultimate use of the slurry mixture. Phrased another way, the issue of the validity of the '059 patent turns on the problems associated with slurries, and not with blasting explosives or sparklers. The importance of making this distinction was recognized in *Graham* v. *John Deere Co.,* 383 U. S. 1 (1966) at 35:

> "The problems confronting Scoggin and the insecticide industry were not insecticide problems; they were mechanical closure problems."

In essence, the issue presented to this Court is whether the expedient used by the patentees of the '059 patent is already in the public domain and is therefore available for anyone to use free of restraint. Since Faber taught that a phosphate buffer could be used to inhibit the aluminum-water reaction in an aqueous slurry containing water, an inorganic nitrate and aluminum particles, the public is now free to select *any* phosphate known to be a buffer and use it for the same purpose. To permit appellants to remove from the public domain that which Faber dedicated in exchange for his patent monopoly "flies in the teeth of the purpose" of the patent law. *Aerotec Industries* v. *Pacific Scientific Co.,* 381 F. 2d 795, 802 (9th Cir. 1967).

II.

SUMMARY JUDGMENT WAS A PROPER REMEDY

A. Summary Judgment Is Proper In a Patent Case.

A concise discussion of the merits of the summary judgment procedure, including guidelines for its use, is found in *Park-in-Theatres* v. *Perkins,* 190 F. 2d 137 (9th Cir. 1951) at 142:

> "Judicature is a practical business and the summary judgment procedure has been introduced into our practice as a practical device for the expeditious disposition of litigation where there appears to be no need for the usual type of trial. We think the district judge reasonably and correctly concluded that the posture of this case at the time of adjudication showed that there would be no point in taking testimony upon the question of invention. Indeed, neither in the district court nor here has appellant made apparent what, if anything, in addition to the present record might have been useful on the issue of invention. It is true that appellant claims generally that there are material issues of fact in dispute. But as we read the affidavits filed in connection with the motion for summary judgment, they do not disclose the occasion for proof beyond the record already made. Indeed, the affidavits reveal rather clearly that on the issue of invention, the problem here is essentially one of applying legal standards to circumstances adequately before the court.
>
> There are cases in which factual presentation is necessary to make clear the significance of the patent either because of conflicting interpretations of its claims or because the patent, in its nature, is difficult to understand. But there are other cases where there

> can be little doubt what the patent claims and factual presentation is not necessary to illuminate the alleged invention. Bulldog Electric Products Co. v. Cole Electric Products Co., 2 Cir., 1945, 148 F. 2d 792; Steigleder v. Eberhard Faber Pencil Co., 1 Cir., 1949, 176 F. 2d 604, certiorari denied, 1949, 338 U. S. 893, 70 S. Ct. 244, 94 L. Ed. 548. This appears on its face to be such a case. It was so treated by the parties in the district court and the appellant suggests nothing persuasive to the contrary."

It is submitted that the present case is one which falls squarely within the category referred to in *Park-in-Theatres,* i.e. a case "where there can be little doubt what the patent claims and factual presentation is not necessary to illuminate the alleged invention."

B. Summary Judgment Was Proper In This Case

Appellees attacked the validity of the '059 patent in the Court below as being anticipated under 35 U. S. C. § 102(b) and as being obvious under 35 U. S. C. § 103. Appellants contend that the '059 patent is not invalid under § 102(b) because of a deficiency in the disclosure of the Faber patent. Appellants also contend that the issue of whether the '059 patent is obvious in view of Faber and Taylor under § 103 cannot be determined without a full trial.

Thus, appellants do not challenge the right or power of the lower Court to summarily invalidate the '059 patent under 35 U. S. C. § 102(b) or § 103, but merely contend that this is not an appropriate case for such action.

Appellants cite the case of *Reiner* v. *I. Leon Co.,* 285 F. 2d 501, 503-4 (2d Cir. 1960) to support their position that the issues before the District Court in this case should not have been resolved without a full trial. That case, and its discussion of 35 U. S. C. § 103 has been superseded by *Graham*

John Deere, 383 U. S. 1 (1966).* What is particularly ertinent and is therefore repeated here is the following por- on of the *Graham* decision which recognizes the difficulties herent in applying the test set forth in 35 U. S. C. § 103:

> "This is not to say, however, that there will not be difficulties in applying the nonobviousness test. What is obvious is not a question upon which there is likely to be uniformity of thought in every given factual context. The difficulties, however, are comparable to those encountered daily by the courts in such frames of reference as negligence and scienter, and should be amenable to a case-by-case development." (*Graham* v. *John Deere Co., supra,* at 18).

The recent case of *Walker* v. *General Motors Corporation,* 362 F. 2d 56 (9th Cir. 1966), decided by this Court, lied heavily upon the *Graham* decision for guidance in firming a decision by the lower court on summary judgent of invalidity under 35 U. S. C. § 103. As stated by the ourt at 59:

> "It is true that obviousness must be determined against a factual background [Graham v. John Deere Co., 383 U. S. 1, 86 S. Ct. 684, 15 L. Ed. 2d 545 (1966)], but a summary judgment invariably rests upon a factual foundation. It is inappropriate only when a material fact is subject to genuine dispute—as it was in the two cases relied upon by plaintiff: Hughes Blades, Inc. v. Diamond Tool Associates, 300 F. 2d 853 (9th Cir. 1962), and Cee-Bee Chem. Co. v. Delco Chemicals, Inc., 263 F. 2d 150 (9th Cir. 1958). If the material facts are not disputed, and if on these undisputed facts the difference

*Portions of *Graham* are quoted by appellants at pp. 16-17 of eir brief.

> between the alleged invention and the prior art would have been obvious, a summary judgment of invalidity for lack of invention is entirely proper."

According to *Graham,* the basic factual background necessary to a determination of § 103 obviousness relates to three matters:

1. The scope and content of the prior art;

2. The differences between the prior art and the claims at issue; and

3. The level of ordinary skill in the pertinent art.

In *Walker,* the Court found that plaintiff did not dispute the fact that the cited reference was prior art as to the patent in suit. In the present matter, there is no dispute that Faber and Taylor are prior art as to the '059 patent.

In *Walker,* the Court found that the structure disclosed in the prior art reference was *simple,* requiring no explanation. Here, too, it is abundantly clear that the subject matter of Faber and Taylor are *simple,* requiring no explanation.

The Court in *Walker* stated that if the differences between the prior art and the patent in suit would have been obvious to a person of ordinary skill in the art, summary judgment was proper, "without regard to whether other relevant prior art existed in addition to" the reference specifically relied upon. (*Id.* at 59)

The Court then discussed the requirement of *Graham* relating to "the level of ordinary skill in the pertinent art":

> "Thus, the only possible issue of fact was the level of ordinary skill of persons engaged in the art. But this was not a real issue, for it is not subject to serious doubt that if the ordinary skill possessed by persons engaged in the design of automobiles at the time of Walker's 'invention' were postulated at the

> minimum conceivable level, Walker's separate tank structure would have suggested itself as a possible solution to a person possessing such skill. . . ." (p. 59)

In the present case, assuming as in *Walker,* that ordinary skill is postulated "at the minimum conceivable level", it is submitted that the use of phosphates to inhibit the aluminum-water reaction in the '059 slurry "would have suggested itself as a possible solution to a person possessing such skill."

III.

THERE IS NO PRESUMPTION OF VALIDITY OF '059

In general, patents are presumed to be valid. 35 U. S. C. § 282.* However, such presumption of validity cannot extend beyond the scope of the administrative record in the Patent Office, and accordingly, the existence of pertinent prior art not cited by the Patent Office destroys such presumption. *Jacuzzi Bros.* v. *Berkeley Pump Co.,* 191 F. 2d 632, 634 (9th Cir. 1951); *Siegler Corp.* v. *Coleman Co.,* F. Supp. , 119 U. S. P. Q. 213, 214, (S. D. Cal. 1958) and other cases cited therein.

Neither Faber nor Taylor were cited by the Patent Office or the applicants during the prosecution of the '059 patent.

As set forth in *McCulloch Motors Corporation* v. *Oregon Saw Chain Corp.,* 234 F. Supp. 256, 260 (S. D. Cal. 1964);

> "Even one prior art reference which has not been considered by the Patent Office may overthrow the presumption of the validity."

The existence of Faber and Taylor completely destroys any presumption of validity of '059.

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*Reproduced in the Appendix hereof.

IV.

THE PATENTEES OF THE '059 PATENT ARE CHARGED WITH KNOWLEDGE OF THE PRIOR ART

The patentees of the '059 patent are charged with knowledge of all the prior art existent at the time of their alleged invention, irrespective of whether or not the patentees themselves actually knew of the prior disclosures. *Graham* v. *John Deere Co.,* 383 U. S. 1, 36 (1966); *Griffith Rubber Mills* v. *Hoffar,* 313 F. 2d 1, 3 (9th Cir. 1963); *Walker* v. *General Motors Corporation,* 362 F. 2d 56, 60 (9th Cir. 1966).

V.

THE '059 PATENT IS INVALID UNDER 35 U. S. C. § 102(b)

A. The Problem To Which '059 Was Directed

The problem faced by the patentees of '059 was the reaction between aluminum and water in a slurry containing ammonium nitrate. According to the '059 patent, the aluminum-water reaction formed hydrogen and was exothermic and thus created a fire and explosion hazard. ['059 patent, Col. 1, lines 22-30]

B. The '059 Solution To The Problem

The patentees solved the problem by adding to the slurry a phosphate selected from the group consisting of ammonium and alkali metal phosphates. ['059 patent, Col. 1, lines 50-56] The '059 patent further suggests that suitable phosphates include sodium dihydrogen phosphate and ammonium dihydrogen phosphate. ['059 patent, Col. 2, lines 57, 59]

C. Both the Problem and the Solution of '059 Were Previously Disclosed by Faber

In 1925, 37 years before the date of the application for the '059 patent, the Faber patent issued. According to

Faber, one of the problems faced in making sparklers was the aluminum-water reaction which occurred in an aqueous slurry containing water, particulate aluminum and a nitrate (oxidizing agent). The aluminum-water reaction was exothermic, and produced hydrogen, and the effects of these phenomena rendered the slurry unfit for use.

The problem faced by the patentees of the '059 patent was in the *slurry* and not in the effectiveness of the blasting composition. It is also abundantly clear that the problem faced by Faber was in the *slurry,* and not in the effectiveness of the sparkler. Accordingly, the fact that Faber converts his slurry into a pyrotechnic article, whereas the '059 patentees use their slurry for blasting purposes, is entirely irrelevant to the question presented to this Court. It matters not what the *end use* of the slurry may be, for the problem—the aluminum-water reaction—*exists and is solved* independent of the end use.

Faber solved the problem by adding a buffer to the slurry composition. Specifically, Faber added a buffer salt, calcium phosphate, which he identified as one of the then most successful buffers. It is clear that Faber appreciated that there were other buffers which would also serve to inhibit the aluminum-water reaction. [Faber, Col. 1, lines 82-84] Appellants seek to divert attention from the clear teaching of the use of a buffer by continually referring to Faber's alternate use of "acids or acid salts". [P. Br. 7].

Thus, once Faber pointed the way to the solution of problems arising from the aluminum-water reaction by incorporation of a buffer, it was a simple matter for the patentees of the '059 patent to select the same or other buffers for this purpose. It is undisputed by appellants that diammonium hydrogen phosphate and alkali metal phosphates are buffers.

D. Claim Limitation To A Particular Phosphate Does Not Create A Patentable Distinction

Claims 1 through 5 recite ammonium or alkali metal phosphates as the phosphate to be used. There is no basis either in the '059 patent or in this record, including the Ursenbach affidavit, which supports a distinction, much less a patentable distinction, between the calcium phosphate of Faber and the ammonium or alkali metal phosphates.

Neither the '059 patent nor the Ursenbach affidavit contains any statement or suggestion that phosphates other than ammonium or alkali phosphates are inoperative for its purpose. The glaring omission from the Ursenbach affidavit of any data to show that phosphates other than those claimed in '059 are inoperative speaks louder than words to establish that *there is no criticality* associated with the selection of the type of phosphate. See *Stallman* v. *Casey Bearing Company,* 244 F. 2d 905, 907 (9th Cir. 1957).

In the '059 patent, there does appear the bald statement, unsupported by any data, that diammonium hydrogen phosphate is the "preferred phosphate". Assuming, *arguendo,* that such phosphate performs in a more satisfactory manner than Faber's calcium phosphate, this is an insufficient basis on which to predicate the grant of a patent. The Supreme Court in *Smith* v. *Hall,* 301 U. S. 216, 232 (1937), held that the fact that the prior art did not utilize the best possible mode did not destroy its effectiveness as an anticipation.

Simply stated, mere superiority does not confer patentability on an otherwise old invention. See *Celite Corporation* v. *Dicalite Co.,* 96 F. 2d 242, 248 (9th Cir. 1938).

E. Claim Limitation To Percent Phosphate Does Not Create A Patentable Distinction

Claims 2 and 4 of '059 specify that from 0.1% to 2% by weight of phosphate is incorporated in the slurry.*

*The other claims have no such limitation.

Faber discloses that between 3% to 5% may be incorporated in order to obtain the desired inhibition. (Faber, page 2, column 1, lines 10-12).

The range of 0.1% to 2% is entitled to no patentable significance since there has been no showing whatever of criticality relating thereto.

In fact, the '059 patent itself concedes the unimportance of the exact amount of phosphate added. After stating that it "has been found that from 0.1% to 2% by weight of the phosphate inhibitor is effective", the '059 patent goes on to state in the very next sentence that amounts "larger than 2% phosphate" may be used. ['059 patent, Col. 1, lines 61-66] Virtually the same language as appears in the '059 patent relating to the amount of phosphate to be included, was held to be "fatal to a claimed invention" by the Supreme Court in *Dow* v. *Halliburton Co.,* 324 U. S. 320 (1945) at 329:

> "The patent recommends that the acid be diluted to a 5% to 20% strength but it is recognized that 'other concentrations may be used, if desired', to achieve the purpose at hand. Such a broad and indefinite specification as to dilution is fatal to a claimed invention."

The mere presence of numerical limitations in claims 2 and 4 cannot serve to remove the subject matter thereof from the prior art. Judge Harrison in *Muehleisen* v. *Pierce,* 114 F. Supp. 503 (S. D. Cal. 1953), *aff'd* 226 F. 2d 200 (1955) quoted with approval at 507 the following holding from a Second Circuit case:

> " 'A patentee may not arbitrarily select a point in a progressive change and maintain a patent monopoly for all operations in that particular change falling on one particular side of that arbitrarily selected

> point. It is only where the selected point corresponds with the physical phenomenon and the patentee has discovered the point at which that physical phenomenon occurs that the maintenance of a patent monopoly is admissible.' . . . Kwik Set, Inc. v. Welch Grape Juice Co., 2 Cir., 1936, 86 F. 2d 945, 947 . . ."

F. Faber Satisfied All of the Requirements of § 102 (b)

The aqueous slurry of '059 includes water, an inorganic nitrate, and aluminum particles; a phosphate is used to inhibit the aluminum-water reaction. The aqueous slurry of Faber includes water, an inorganic nitrate, and aluminum particles; a phosphate is used to inhibit the aluminum-water reaction. There is not a scintilla of novelty or original thinking in '059 which would elevate the expedient described therein to the dignity of invention.*

Admittedly, the aqueous slurry of '059 was eventually to be used for blasting purposes, whereas the aqueous slurry of Faber was to be used for making sparklers. However, this Circuit has repeatedly demanded more than mere differences in form in order to find patentable invention. In *Bingham Pump Co., Inc.* v. *Edwards,* 118 F. 2d 338 (9th Cir. 1941), the Court said at 340:

> "There remains the question as to whether Appel's device does *anticipate* appellee's device. The differences between the two devices, as stated above and as related by witness McDougall, are in the form or shape of such devices. Are the changes in Appel's device made by appellee sufficient to impart inven-

*Appellants' citation of *Stauffer* v. *Slenderella Systems of California,* 254 F. 2d 127 (9th Cir. 1957) is inapt. Here, as contrasted with *Stauffer,* ". . . all of the same elements are found in exactly the same situation and united in the same way to perform the identical function. . . ." (*Ibid,* p. 128)

> tion to appellee's device? We think not. The rule on that point is an aged one, and is stated in Smith v. Nichols, 21 Wall. 112, 88 U. S. 112, 119, 22 L. Ed. 566, as follows: '* * * But a mere carrying forward or new or more extended application of the original thought, a change only in form, proportions, or degree, the substitution of equivalents, doing substantially the same thing in the same way by substantially the same means with better results, is not such invention as will sustain a patent.' "

Appellants argue that Faber is not in point because his aqueous slurry is not used as an explosive. In *Leishman* v. *General Motors Corp.,* 191 F. 2d 522 (9th Cir. 1951) at 529, the patentee cited as error the fact that a prior art reference used to anticipate and invalidate the patent in suit related "to a different, non-analogous art, with completely different problems". The Court affirmed the holding of the trial court, stating as follows at 530:

> "We think that for the reasons we have mentioned in the discussion of the findings on the Schaefer patent, we cannot hold the court's findings with respect to *anticipation* by the Cunningham patent to be clearly erroneous. We think that the record amply justifies a finding that the new use of the coaxial principle by the appellant in a shaft positioning device is so nearly analogous to the Cunningham patent that the applicability of the device to its new use would occur to a person of ordinary mechanical skill."

It is fully evident that the substitution of other phosphate buffers for the calcium phosphate of Faber to inhibit the aluminum-water reaction in the '059 slurries "would occur to a person of ordinary mechanical skill".

In view of the foregoing, it is submitted that the '059 patent is clearly anticipated by Faber and is therefore invalid under 35 U. S. C. § 102(b).

VI.

THE '059 PATENT IS INVALID UNDER 35 U. S. C. § 103

A. The Alleged Invention of '059 Merely Employs A Taylor Phosphate In the Faber Method

In the recent case of *Walker* v. *General Motors Corporation,* 362 F. 2d 56 (9th Cir. 1966), it was decided that summary judgment of invalidity for lack of invention under 35 U. S. C. § 103 is entirely proper. It is necessary only that *material* facts not be in *genuine* dispute, and that on the basis of such undisputed facts, the differences between the alleged invention and the prior art would have been obvious. *Walker* v. *General Motors Corporation, supra,* at 59.

As discussed in detail above, Faber teaches that the aluminum-water reaction in a slurry containing an inorganic nitrate may be inhibited by the addition of calcium phosphate. Faber also discloses that other materials may be used, identifying such operative materials as buffers.

Taylor, issued in 1949, suggests the desirability of utilizing *phosphate* buffer salts in an ammonium nitrate explosive mixture. [Taylor, Col. 3, lines 60-69] Among the buffer salts disclosed as suitable for the suggested use were sodium dihydrogen phosphate and ammonium dihydrogen phosphate. ['059, Col. 2, lines 57, 59] Thus, two specific phosphate salts used by the patentees of the '059 patent were disclosed by Taylor to be effective buffers in ammonium nitrate explosive mixtures some 13 years earlier.

It is clear from the foregoing that:

(a) the use of a buffer salt, and in particular a phosphate salt, to solve the problem faced by the

patentees of the '059 patent was known at least thirty-five years before the application for the '059 patent and was disclosed by Faber, and

(b) specific phosphate salts disclosed by the patentees of the '059 patent as useful in solving the problem were specifically disclosed by Taylor as effective buffers in an ammonium nitrate explosive mixture more than thirteen years before the application for the '059 patent.

Thus, the alleged invention of the '059 patent is nothing more than the use of one of the phosphate salts of Taylor as the buffer salt called for by Faber. Under § 103, the question before Judge Real was whether or not such use of a phosphate was obvious. He concluded that it was obvious, and this Court is now asked to review that determination.

B. It Was Obvious To Use A Taylor Phosphate In the Faber Method

Perhaps the most pertinent law on this question, based upon a fact situation almost identical to that of the present case, is found in *Dow Co.* v. *Halliburton Co.,* 324 U. S. 320 (1945). The problem faced by the patentees, and the solution proposed are set forth by the Court, beginning at the foot of 326:

> "Thus prior to the patenting of the Grebe-Sanford process in 1932 the following facts were manifest and elementary to any one skilled in the art: (a) hydrochloric acid would dissolve limestone and in-increase the production of oil wells, as demonstrated by the Frasch patent; (b) hydrochloric acid would also corrode metal with which it came in contact; (c) arsenic compounds and other chemicals could

be added to hydrochloric acid to inhibit this corrosive effect; and (d) inhibited hydrochloric acid could effectively be utilized to remove scale from metal well equipment without corroding the metal. A representative of the Pure Oil Company then suggested to Grebe and Sanford the possibility of acidizing oil wells to increase production. The latter, from their knowledge of brine well acidizing and of corrosion inhibition, immediately recommended the use of hydrochloric acid containing an inhibitor."

The Court then analyzed the foregoing facts to determine whether the contribution of the patentees was invention within the meaning of the patent statutes. Beginning at 327, the Court stated:

"All the Grebe-Sanford process taught was the obvious fact that hydrochloric acid could be inhibited to prevent corrosion while being used to dissolve limestone rock pursuant to the Frasch method of acidizing wells. No new mental or physical operation was required to add, as suggested by the Grebe-Sanford process, an arsenic compound of from 1% to 5% of the weight of a hydrochloric acid solution. No new or unexpected results were obtained by the addition of such an inhibitor. It was perfectly plain to an expert that the metal well equipment would thereby be protected from corrosion. The Grebe-Sanford method, in short, involved in this respect no more than a mere application of an old process of inhibition to a new and analogous use of protecting metal well equipment from corrosion when the well is being acidized to increase production. Such a process lacks the very essence of an invention."

Paraphrasing the legal conclusions reached by the Court in the *Dow* case, it is apparent that in the present case:

> All the '059 patent taught was the obvious fact that the aluminum-water reaction in an aqueous nitrate explosive slurry could be inhibited. No new mental or physical operation was required to add, as suggested by the '059 patent, a phosphate buffer salt. No new or unexpected results were obtained by the addition of such an inhibitor. It was perfectly plain to an expert that the aqueous slurry would thereby be stabilized. The '059 patent, in short, involved in this respect no more than a mere application of an old process of inhibition to a new and analogous use of stabilizing an aqueous ammonium nitrate explosive slurry. Such a process lacks the very essence of an invention.

C. Mere Substitution of One Phosphate For Another Is Not Invention

The '059 patent utilizes known salts, shown by Taylor to be useful as buffers in nitrate explosive compositions, to inhibit the same reaction for which Faber utilizes another phosphate buffer salt. In this Circuit it is recognized that the substitution of one known material for another theretofore used for the same purpose is not patentable under 35 U. S. C. § 103. *Griffith Rubber Mills* v. *Hoffar,* 313 F. 2d 1, 3 (9th Cir. 1963).

VII.

THERE ARE NO GENUINE ISSUES OF MATERIAL FACT

In opposing the Motion for Summary Judgment in the Court below, plaintiffs-appellants filed a Statement of Genuine Issues [R 127-8] which comprised seven alleged genuine issues of material fact.

Having failed to convince Judge Real that any of the seven alleged genuine issues of material fact actually existed, appellants apparently have abandoned that course of action and now set forth, at page 15 of their brief, three issues of fact which it contends the Court must have found before deciding that the patent was invalid under 35 U. S. C. § 102(b), and at page 24, three more issues of fact which it is contended, must have been (improperly) resolved against plaintiffs-appellants. All of these matters have been fully discussed in their proper context herein. Summarily stated, these issues are neither genuine nor material.

A. The Mechanism of Inhibition Is Not An Issue

Appellants argue that Faber must fail as an anticipation because he teaches that the aluminum-water reaction is inhibited as a result of a buffer action, whereas the patent in suit is not based on the principle of buffer action. Thus, appellants argue that a genuine issue of material fact exists, i.e. does the phosphate in Faber function in the same manner as the phosphate in '059. This is nothing more than a semantic exercise.

What appellants fail to say is more significant than what they do say. Nowhere in appellants' arguments or in the Ursenbach affidavit is there any contention that the calcium phosphate of Faber would be inoperative to inhibit the aluminum-water reaction in the '059 slurry, or that the phosphates disclosed by Taylor would be inoperative to inhibit the aluminum-water reaction in the '059 slurry.

It is uncontroverted that neither the '059 patent nor the Ursenbach affidavit advances *any* facts to explain how phosphates serve to inhibit the aluminum-water reaction. On page 13 of appellants' brief, we find the statement that the phosphate inhibitors "function as inhibitors *because they are phosphates** and not because they are acidic". No sup-

*There can be no dispute that Faber's calcium phosphate is a phosphate.

port for this statement appears in the patent or in the Ursenbach affidavit; both are totally silent on the mechanism by which the phosphates inhibit the aluminum-water reaction.

Appellants, although attributing a *different* mechanism to the operation of the '059 patent as contrasted with Faber, have utterly failed to bring forth one shred of evidence which shows that the mechanism is, in fact, different. The statements in the Ursenbach affidavit to which appellants refer in their brief are obviously conclusions, statements of ultimate fact, and hearsay and are therefore objectionable. (See p. 40 *infra*)

(1) *Correctness of Prior Art Theory Is Not An Issue*

In any event, the law is well settled that the theory of operation is not a basis for conferring patentability on an otherwise unpatentable invention. The law in this regard is double edged:

(a) It is immaterial that prior patentee Faber may not have understood the theory upon which his discovery was predicated.

(b) The mere discovery by later patentees Ursenbach, et al. of a different theory underlying an old invention cannot serve as a stepping stone to a patent.

Floridin Co. v. *Attapulgus Clay Co.,* 125 F. 2d 669 (3d Cir. 1942), involved an appeal from a judgment of invalidity over a prior art reference. The patentee argued that a prior patent failed as a reference because the theory of operation set forth therein was deficient. In rejecting this argument, the Court stated as follows at 671:

> "Nor is any possible deficiency in the explanation offered by a prior patent of its governing scientific principle of importance in determining what falls within the purview of its disclosures. Smith v. Hall,

> 1937, 301 U. S. 216, 57 S. Ct. 711, 81 L. Ed. 1049; Electric Storage Battery Co. v. Shimadzu et al., 3 Cir. 1941, 123 F. 2d 890."

The Supreme Court has also ruled on this point in *Smith* v. *Hall,* 301 U. S. 216, 226 (1937):

> "Whether Hastings knew fully and precisely the scientific principles involved in the procedure thus outlined is immaterial. It is enough if he knew and used the method with operative success. *DeForest Radio Co.* v. *General Electric Co.,* 283 U. S. 664, 686."

Thus, Faber's belief that his calcium phosphate functioned as a buffer does not detract from the effectiveness of his teaching, even should his theory be incomplete or incorrect. Faber's disclosure is a sufficient teaching of a method of solving the problems arising from the aluminum-water reaction in an aqueous slurry containing an inorganic nitrate and aluminum. If followed by a member of the public, it would have produced the success described in the '059 patent. It would likewise have infringed the '059 patent. Accordingly, since that which infringes if after also anticipates if before, Faber is clearly an anticipation of the alleged invention of the '059 patent. See *Aerotec Industries* v. *Pacific Scientific Co.,* 381 F. 2d 795, 803 (9th Cir. 1967).

In short, if the '059 phosphates succeed in inhibiting the aluminum-water reaction because they are phosphates, then Faber is an anticipation under 35 U. S. C. 102(b). If the phosphates of '059 are successful because of a buffering action, then also Faber is an anticipation of the alleged invention of the '059 patent under 35 U. S. C. § 102(b). There is no genuine issue of material fact standing in the way.

(2) *The Reaction Conditions in '059 and Faber Are Identical*

Appellants argue that the incorporation of magnesium arbonate in the Faber slurry makes it alkaline, whereas the)59 slurry does not include any carbonates.* Thus Faber ɔuld not have been solving the same problem or doing so in ıe same way as '059. Appellants further argue that the ex-edient of using a phosphate buffer, as taught by Faber, is ıerefore not applicable to the problems facing the '059 atentees.

Such an argument not only is not supported by the teach-ıg of Faber, but it runs counter thereto. Faber states that ıe phosphate buffer is included to act as a neutralizing gent "for any alkali *developed* over a period of time . . ." Faber, Col. 2, lines 94-5] The alkalinity "developed" in the aber slurry is a direct consequence of the aluminum-water eaction. As stated in Faber beginning at line 52 in column :

> "Aluminum acting on water produces hydrogen by the decomposition of the water. This hydrogen reducing the nitrate of barium not only produces ammonia, which in itself gives an alkaline reaction, but the by-products of the reaction, other than that of ammonia, are also alkaline."

In addition Faber further states beginning at line 74 in ol. 2:

> "It is likely that in almost all of the operations where this composition [slurry] is used at some time or other an alkali is developed either from the materials used or from the water."

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*The wording of appellants' brief on this point is in contrast to ıe Ursenbach affidavit on which it is allegedly based. Referring to ıe '059 slurry, compare:

". . . a slurry that is not alkaline." [P. Br. 22, line 3]
". . . slurry explosives are not *highly* alkaline [R 121, line 28]

As stated in the '059 patent, at column 2, lines 3-5 ammonia is also produced in the slurry, and such ammonia provides an alkaline reaction just as it does in Faber. Indeed, where the slurries and the reactions occurring are virtually identical, if one is alkaline, the other must be.

Faber indicates that it was a known fact that the speed of the reaction between finely divided aluminum and water is increased with increasing alkalinity. [Faber, Col. 2, lines 59-62] Judge Real fully appreciated the role played by the alkalinity of the slurry, namely that it "speeds up the processes" involved in the aluminum-water reaction. [Tr 40-1]

Thus, it is abundantly clear that the aluminum-water reaction in the '059 slurry is related to alkalinity in the same manner as in Faber.

No genuine issue of material fact is raised thereby.

B. The Duration of the Period of Inhibition is Irrelevant and Immaterial

Appellants repeatedly argue that the '059 problem is different than that in Faber because the time span between the initial mixing of the slurry and the advent of the aluminum-water reaction is different in each case. Appellants point to the disclosure in Faber which indicates that the aluminum-water reaction commences within three hours' time of being mixed. The Ursenbach affidavit, relied upon by appellants, stated that the problems arising from the aluminum-water reaction "were encountered in storing such slurry explosives for several days or weeks after they were mixed".* [R 121]

This entire contention is unsound. Example I of the '059 patent states that the aluminum-water reaction

*In appellants' brief at the foot of page 8, it is asserted that the Ursenbach affidavit states that the problems with aqueous slurry explosives are encountered *only* when stored for several days or weeks. Clearly, this is an incorrect representation of the affidavit. See R 121, para. 3.

occurs in the slurry to a considerable extent within the first *six* hours at a temperature above ambient, 81°C. Faber indicates, at Column 2, beginning at line 66, that sometimes six or eight hours elapse before any reaction starts. Accordingly, it is self-evident that the time span between mixing of the slurry and commencement of the aluminum-water reaction can be *equal* for the '059 slurry and the Faber slurry, depending upon the precise composition of the slurry and on the environmental conditions.

Equally important is the fact that there is no assertion by appellants, either in their brief or in the Ursenbach affidavit, that the calcium phosphate would not have protected the Faber slurry for a period of weeks or months had that been necessary. Ursenbach merely says (without any support) that Faber's slurry *did not have to be* protected in storage for several days or weeks. This is hardly the same thing as saying that Faber's slurry was *not* protected for several days or weeks by the addition of calcium phosphate.

Nor is it invention to discover that Faber's inhibition was longer than Faber may have needed for his particular purpose.

From the legal standpoint, appellants' argument in this connection must also fail. Not one of the five claims of the patent in suit sets forth a parameter or limitation relating to the time required for inhibition or the length of time between mixing of the slurry and commencement of the undesirable aluminum-water reaction. As this Court stated in *Henderson* v. *A. C. Spark Plug Div. of General Motors Corp.*, 366 F. 2d 389 (9th Cir. 1966) at 393 fn. 5:

> "The matter involved is in no way material. Neill testified that the Hanks flow-control valve [prior art device] operated in the opposite manner to that of Henderson [patent in suit] (Nov. 8 Tr. 46). While Neill was incorrect in his statement, the matter is of no moment. Claim 6 simply calls for a flow-con-

trol valve operable by engine induced vacuum. It does not require that the valve operate in any particular direction or manner. *Thus, the 'issue' suggested by plaintiff is not a material one."*

C. The Ursenbach Affidavit Fails to Raise Any Genuine Issue of Material Fact

Although relied upon by appellants as raising genuine issues of material fact, in actuality the affidavit fails to comply with Rule 56(e) F. R. C. P.* and is therefore totally useless and ineffective for this purpose.

The affidavit is devoid of admissible evidentiary facts upon which a court could base its own conclusions. Moreover, the paragraphs of the affidavit following the introductory material are replete with hearsay, conclusions of fact and of law, and ultimate facts. The final paragraph is clearly objectionable in that it states conclusions of law and goes to the fundamental issue between the parties. See *Piantadosi* v. *Loew's Inc.,* 137 F. 2d 534 (9th Cir. 1943); *Jameson* v. *Jameson,* 176 F. 2d 58 (D. C. Cir. 1949); and *United States* v. *Britten, et al.,* 161 F. 2d 921 (3d Cir. 1947).**

The glaring omission of relevant evidentiary facts from the Ursenbach affidavit was repeatedly pointed up during the oral hearing before Judge Real. [Tr 24-6 and 53]

VIII.

FINDINGS OF FACT 2, 3, 4, 6, 8 AND 10 ARE SUPPORTED IN THE RECORD

Appellants take issue only with Findings of Fact 2, 3, 4 and 6 and with conclusory Findings 8 and 10.***

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*Rule 56(e) F. R. C. P. is reproduced in the Appendix hereof.

**See also Shientag, *Summary Judgment,* 4 Fordham L. Rev. 188, 198 (1935) for an excellent discussion of the form and content of affidavits for summary judgment motions.

***Findings 1, 5, 7 and 9 are expressly not challenged [P. Br. 9].

Finding 2 is as follows:

> "The alleged invention of the '059 patent relates to a method of stabilizing aqueous slurries useful as blasting explosives, said slurries containing water, particulate aluminum and an oxidizing agent, e.g., inorganic nitrate, for the purpose of preventing a gas-evolving reaction between the aluminum and water, and specifically involves the addition to such aqueous slurries of an ammonium or alkali metal phosphate for such purpose."

Finding 2 is not criticized as lacking support in the Record.

Appellants contend that Finding 2 is inaccurate in stating that the invention of the patent in suit "relates to a method". The '059 patent itself, column 1, at line 50, states:

> "*The method of this invention* comprises the addition of . . ."

Appellants further criticize Finding 2 as being incomplete and misleading by ignoring the fact that the patent claims an aqueous blasting slurry. As discussed in detail above, the end use of the slurry plays *no* part in the alleged *invention* of the patent. The alleged invention is fully described in the Finding. To distinguish one inhibited slurry from another slurry which is the same in all relevant aspects and which has been inhibited in the identical way, on the basis of the end use of the slurry, is to exalt form over substance.

Under the circumstances previously outlined, it is immaterial that Finding 2 does not include a statement relating to the fact that the slurries of the '059 patent are used for blasting purposes. The Finding sets forth the *invention,* and as such, it is complete.

Appellants further criticize Finding 2 in that the phosphates used inhibit the aluminum-water reaction over a period of weeks or months. As indicated above at pp. 38-40 hereof, this is factually irrelevant and also immaterial from the standpoint of law.

Finding 3 is as follows:

> "The '059 patent does not attribute any criticality or uniqueness either to the particular phosphates disclosed and claimed therein to be suitable for such purpose, or to the amounts thereof to be used for such purpose."

Appellants criticize Finding 3 as lacking support in the Record and as being directly contrary to the description of the '059 patent and to statements in the Ursenbach affidavit.

At page 26 hereof, there is a full and complete discussion of the lack of criticality in the particular phosphates taught in the '059 patent. At pp. 26-28 hereof, there is a full and complete discussion of the total lack of criticality in the range of amount of phosphates taught by the '059 patent. From this it will be seen that the total absence of any assertion in the patent or experimental evidence in the record to support such criticalities justifies a Finding that such criticalities do not exist.* This is reinforced by Faber's showing that other phosphates can be used for the very same purpose, and the '059 statement that more than the claimed amounts of phosphate may be used, if desired.

The Ursenbach affidavit notably lacks any evidence in the form of experimental data or otherwise which proves or shows that the amounts of phosphate or the types of phosphate used in the '059 patent are *critical.* There is no showing in the Ursenbach affidavit that other phosphates are

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*Whether or not they are "of importance" is irrelevant. See *supra* p. 14, fn.

noperative, nor is there any showing that amounts different from the range set forth in the '059 patent are inoperative.

Finding 4 is as follows:

> "U. S. No. 1,529,778 (hereinafter referred to as the '778 patent) teaches the use of buffer salts, and in particular a phosphate salt, to inhibit the gas-evolving aluminum-water reaction in an aqueous slurry composition containing water, particulate aluminum, and an inorganic nitrate."

Finding 4 is not challenged as lacking support in the record. According to appellants, this Finding is inaccurate because it ignores:

(a) That Faber does not disclose an explosive composition;

(b) That Faber does not teach the use of phosphates generally nor the claimed phosphates in particular, and

(c) That Faber teaches the use of acid buffer salts to prevent hydrogen evolution by neutralizing alkalinity in the system.

The extensive discussion above makes it abundantly clear that these points raise irrelevant and immaterial issues.

Finding 6 is as follows:

> "U. S. No. 2,481,795 (hereinafter referred to as the '795 patent) teaches that ammonium dihydrogen phosphate, sodium dihydrogen phosphate, and alkali metal phosphates in general were known buffer salts which could be incorporated in explosive compositions containing inorganic nitrate."

It is noted that appellants do not contend that Finding 6 is unsupported by the record.

Appellants contend that Finding 6 is inaccurate because it fails to state:

a) That Taylor does not describe either an aqueous slurry or any composition containing aluminum, and

b) That Taylor suggests acid phosphates only to neutralize alkaline vapors.

Taylor was cited solely to show that one skilled in the explosive art knew, at the time of the filing of the application for the '059 patent, that certain phosphates were useful as buffer salts in nitrate explosives. (*supra*, p. 6) The District Court fully understood this use of the Taylor reference. Accordingly, it is irrelevant that Taylor does not describe an aqueous slurry or a composition containing aluminum. That Taylor suggests his phosphates be used to neutralize alkaline vapors enhances rather than diminishes the relevance of this reference.*

Findings 8 and 10 are challenged by appellants as being "totally erroneous" [P. Br. 10]. As may be seen from the foregoing, these findings are fully supported by the record and the other findings based thereon.

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*Indeed, the ammonia evolved from the '059 slurry is an "alkaline vapor".

CONCLUSION

In view of the foregoing, U. S. Patent No. 3,113,059 is invalid under 35 U. S. C. § 102(b) and § 103, and the judgment of invalidity rendered by the Court below should be affirmed.

Respectfully submitted,

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I certify that in connection with the preparation of this brief, I have examined Rules 18, 19 and 39 of the United States Court of Appeals for the Ninth Circuit, and that, in my opinion, the foregoing brief is in full compliance with those rules.

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APPENDIX

Rule 56, F. R. C. P.

(b) *For Defending Party.* A party against whom a claim, counterclaim, or cross-claim is asserted or a declaratory judgment is sought may, at any time, move with or without supporting affidavits for a summary judgment in his favor as to all or any part thereof.

(c) *Motion and Proceedings Thereon.* The motion shall be served at least 10 days before the time fixed for the hearing. The adverse party prior to the day of hearing may serve opposing affidavits. The judgment sought shall be rendered forthwith if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law. A summary judgment, interlocutory in character, may be rendered on the issue of liability alone although there is a genuine issue as to the amount of damages.

(e) *Form of Affidavits; Further Testimony; Defense Required.* Supporting and opposing affidavits shall be made on personal knowledge, shall set forth such facts as would be admissible in evidence, and shall show affirmatively that the affiant is competent to testify to the matters stated therein. Sworn or certified copies of all papers or parts thereof referred to in an affidavit shall be attached thereto or served therewith. The court may permit affidavits to be supplemented or opposed by depositions, answers to interrogatories, or further affidavits. When a motion for summary judgment is made and supported as provided in this rule, an adverse party may not rest upon the mere allegations or denials of his pleading, but his re-

sponse, by affidavits or as otherwise provided in this rule, must set forth specific facts showing that there is a genuine issue for trial. If he does not so respond, summary judgment, if appropriate, shall be entered against him.

U. S. Code, Title 35, Patents

§ 102. Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless—

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or

(c) he has abandoned the invention, or

(d) the invention was first patented or caused to be patented by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application filed more than twelve months before the filing of the application in the United States, or

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or

(f) he did not himself invent the subject matter sought to be patented, or

(g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

§ 103. Conditions for patentability; non-obvious subject matter

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

§ 282. Presumption of validity; defenses

A patent shall be presumed valid. The burden of establishing invalidity of a patent shall rest on a party asserting it.

The following shall be defenses in any action involving the validity or infringement of a patent and shall be pleaded:

(1) Noninfringement, absence of liability for infringement, or unenforceability,

(2) Invalidity of the patent or any claim in suit on any ground specified in part II of this title as a condition for patentability,

(3) Invalidity of the patent or any claim in suit f
failure to comply with any requirement of sections 1
or 251 of this title,

(4) Any other fact or act made a defense by th
title.

In actions involving the validity or infringement of
patent the party asserting invalidity or noninfringeme
shall give notice in the pleadings or otherwise in writing
the adverse party at least thirty days before the trial, of th
country, number, date, and name of the patentee of ar
patent, the title, date, and page numbers of any publicati
to be relied upon as anticipation of the patent in suit o
except in actions in the United States Court of Claims,
showing the state of the art, and the name and address
any person who may be relied upon as the prior inventor
as having prior knowledge of or as having previously us
or offered for sale the invention of the patent in suit. In th
absence of such notice proof of the said matters may not
made at the trial except on such terms as the court require